SAMPLING AND ANALYSIS PLAN

FOR

ASBESTOS AND HAZARDOUS MATERIALS SURVEY

3131 BIDDLE AVENUE
WYANDOTTE, MICHIGAN

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Prepared for:

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TABLE OF CONTENTS

PAGE

1.0 PROJECT DESCRIPTION

This Sampling and Analysis Plan (SAP) was prepared for the Asbestos and Hazardous Materials Survey of the former City of Wyandotte City Hall building located at 3131 Biddle Avenue, Wyandotte, Wayne County, Michigan (site). The procedures outlined in this SAP are in accordance with the National Emission Standards for Hazardous Air Pollutants (NESHAP) (EPA 40 CFR Part 61).

TTL Associates, Inc. (TTL), on behalf of the Downriver Community Conference Brownfield Consortium (DCCBC), will conduct the Asbestos and Hazardous Materials Survey for the site structure. TTL understands the structure on the site is planned for demolition. The Asbestos and Hazardous Materials Survey will be funded through the DCCBC's 2012 US EPA Assessment Grant.

1.1 Project Background

The site consists of one parcel, totaling approximately 0.127-acre of land. The site contains an approximately 32,500 square foot commercial building, used for retail purposes prior to use by City of Wyandotte for offices. The site is owned by the City of Wyandotte (the City), and the building has been almost completely (if not yet completely) vacated by the City. The City intends to demolish the site building, and package it with an adjoining vacant parcel for sale and commercial redevelopment by others. Based on the age of the site building (constructed between 1929 and 1948), it is suspected that the building contains asbestos-containing building materials that may be disturbed by the planned demolition of the building. Prior to demolition, the structure will be inspected to determine if there are suspect asbestos-containing building materials (ACBM) and/or suspected hazardous materials present that may require removal prior to demolition.

1.2 Project Objectives

The overall project objectives will be to safely demolish the structure to prepare the site for future redevelopment. The NESHAP Asbestos Inspection of the building will be conducted to determine the presence and amount of known or suspect ACBM in the building prior to demolition. If asbestos-containing materials are present, then measures may have to be undertaken to remove the asbestos-containing material prior to demolition. A material is considered to be positive for asbestos if it contains greater than one percent asbestos. The scope of work includes building inspection, material sampling, laboratory analysis, and the completion of a NESHAP inspection report.

As an additional part of this investigation, a hazardous materials survey will be conducted to assess for the presence of other suspected hazardous materials such as paint cans, aerosol cans, thermostats, smoke detectors, fluorescent bulbs/ballasts, etc. that may need to be removed and properly disposed of prior to demolition.

1.3 Quality Assurance Project Plan

This SAP will be implemented in conjunction with the procedures stated in TTL's US EPA-approved October 2012 Quality Assurance Project Plan (QAPP), which is on file with the DCCBC and the U.S. EPA. The U.S. EPA conditionally approved the QAPP on November 2, 2012. The QAPP presents the organization, objectives, planned activities, and specific Quality Assurance/Quality Control (QA/QC) procedures associated with NESHAP Asbestos Building Inspections under the 2012 Assessment Grant to the DCCBC. Specific protocols for sampling, sample handling and storage, chain-of-custody, and laboratory analyses are described within the QAPP. All QA/QC procedures for this project will be structured in accordance with applicable technical standards, and US EPA and MDEQ requirements, regulations and guidance.

2.0 ASBESTOS SAMPLING AND ANALYSIS

This section provides the site-specific sampling and analysis plan for the NESHAP Asbestos Building Inspection.

2.1 NESHAP Building Inspection Objectives and Overview

The objectives of the NESHAP Building Inspection are to determine the presence, quantity and location of asbestos-containing materials within the building planned for demolition. The NESHAP Building Inspection will be completed using the procedures set forth in TTL's US EPA-approved QAPP. Please refer to the QAPP for additional details regarding TTL's procedures.

2.2 Building Materials Inspection

The NESHAP Building Inspection will be conducted to categorize all interior and exterior building materials to determine if the building materials are regulated asbestos-containing material (RACM), non-friable ACM or a non-ACM. The NESHAP Building Inspection will include the following:

- Visual inspection of all suspect asbestos-containing friable building materials to be categorized as a homogeneous sampling area (HSA). Friable materials are defined as any material that can be crushed or pulverized by hand pressure. Friable building materials include, but are not limited to thermal system insulation, surfacing materials, and miscellaneous materials. Certain building materials can be deemed as being a non-asbestos containing material by visual inspection, such as wood, metal and glass. In addition, each HSA will be measured to estimate the linear footage, square footage or volume of the material present, so that the proper number of bulk samples can be collected for sample analysis. A HSA is defined as a material that exhibits similar physical characteristics (e.g., texture, surface color, and appearance) and that was applied or installed at the same time (if known) as observed by our inspector utilizing his/her professional judgment and experience.

- Visual inspection of all suspect asbestos-containing non-friable building materials to be categorized as a homogeneous area. Non-friable materials are defined as any material that cannot be crushed or pulverized by hand pressure. Non-friable building materials include, but are not limited to resilient floor tile, transite® panels, roofing materials, etc. In addition, each homogeneous sampling area will be measured to estimate the linear footage, square footage or volume of the material present, so that the proper number of bulk samples can be collected for sample analysis.

2.3 Building Materials Sampling

For suspect friable materials, the following sampling strategy will be used:

- For surfacing materials, the following number of samples will be collected for each homogeneous area:
  - 3 bulk samples if homogeneous area is < 1,000 square feet total
  - 5 bulk samples if homogeneous area is > 1,000 square feet and < 5,000 square feet
  - 7 bulk samples if homogeneous area is >5,000 square feet

- For thermal system insulation, 3 bulk samples will be collected for each homogeneous area.

- For miscellaneous materials, a minimum of 2 bulk samples for each homogeneous area will be collected

For suspected non-friable asbestos-containing material, 2 bulk samples will be collected from each individual homogeneous area.

Sample locations will be chosen so as to be representative of the suspect materials (homogeneous sampling area) present in the surveyed areas. Before the sample is collected, a surfactant (soapy water) will be used by our inspector to wet the sampling area to minimize a potential fiber release. The samples will be obtained using a coring device or other method as appropriate to collect a representative sample. A complete core or cross-sectional sample will be collected to ensure that all potential asbestos-containing layers are sampled. Samples will be identified by a unique number, and sample numbers and locations will be logged onto TTL Bulk Sample Log sheets. Sample chain-of-custody forms will be completed when the samples are submitted to the asbestos laboratory for analysis.

A State of Michigan licensed and certified Asbestos Inspector will conduct the inspections and sampling. All collected samples will be placed in clean sealable bags; each bag will be identified with a unique sampling number prior to shipment to the laboratory for analysis, and shipped with chain-of-custody forms to the analytical laboratory.

2.4 Laboratory Analyses

All asbestos bulk samples will be delivered to TTL's laboratory in Toledo, Ohio for analysis by Polarized Light Microscopy (PLM). TTL participates in the National Voluntary Laboratory Accreditation Program administered by the National Institute of Standards and Technology. The US EPA "Method for the Determination of Asbestos in Bulk Building Materials" 600/R-93/116, requires that all multiple, distinct layers must be analyzed individually. Therefore, sample analytical results will be provided for each distinct layer of each sample submitted to the laboratory.

2.5 Data Evaluation and Report Preparation

Upon receipt of the laboratory report, TTL will prepare an Asbestos and Hazardous Materials Survey report for the site that describes the asbestos building inspection field activities and analytical results. The report will include a description of field activities, an estimate of the quantity of each individual asbestos-containing building material, laboratory reports and analytical data summaries, conclusions and recommendations. The report will also include the results of the hazardous materials survey.